

## **REMARKS**

In view of the above amendments and the following remarks, reconsideration of the outstanding Office Action is respectfully requested.

### **I. Restriction Requirement**

The Office Action acknowledges Applicant's traversal of the Restriction Requirement but deems the requirement proper and final. The requirement leaves claims 1-23 and 44-50 under consideration and withdraws claims 24-49 and 51-60 from further consideration pursuant to 37 C.F.R. 1.142(b), as being drawn to a non-elected group. Applicants respectfully traverse.

Applicants submit that the amendment to Claim 26 in the Response to the Restriction Requirement (Paper No. 12) brings Claim 26 within the elected Group I. In particular, Applicants have amended Claim 26 by replacing a "fusion protein" with "protein complex" thereby bringing Claim 26 within Group I, which is drawn to protein complexes. Applicants note that the protein complex in Claim 26 is substantially identical to the protein complex claimed in Claim 1, except for a further limitation that the interacting proteins are covalently linked to each other. Accordingly, Applicants request that the Restriction Requirement be removed in this respect and that claim 26 be considered with the other Group I claims 1-23, and 44-50.

### **II. Amendments to the Specification**

The amendments to the specification are supported by the application as-filed and no new matter has been added. In particular, amendments 1 and 2 to the specification removed hyperlinks as required by the Office Action. Amendments 3-6 to the specification incorporate the language of the originally filed claims and do not add new matter. Specifically, amendment 3 is supported by claim 8, amendment 4 is supported by claim 8, amendment 5 is supported by claims 29 and 34 and amendment 6 is supported by claim 40.

### **III. Amendments to the Claims**

The amendments to the claims are supported by the application as-filed and no new matter has been added. In particular, claims 8, 17, 22, 44, 45, and 50 were amended to change a

typographical grammar error by adding “the” to the claims. Claim 8 was also amended by having the language “a HIV GAG polypeptide fragment” added to the group of second proteins. This amendment is supported by the specification at page 39. Claims 1, 3-7, and 12 were amended to clarify that a homologue is at least about 50% identical to the referenced protein. Support for this amendment is found in the specification at page 12. New claims 61-64 were also added. Support for claims 61-64 is found in the specification at pages 43-46, and 62.

#### **IV. Rejection Under 35 U.S.C. §112, Second Paragraph**

The Office Action rejects claims 1-23 and 44-50 under 35 U.S.C. §112 second paragraph as being indefinite, and states that the definitions of homologue, and fragment include any protein that binds the first or second protein. Applicants note that the definition of “homologue” requires that there is a sufficient sequence homology such that there is a structural resemblance to the native protein and thus is capable of interacting with an interactor of the native protein in a same manner as the native protein, i.e., through the same domain of the interactor. For clarification purposes, Applicants have amended claims 1, 3-7, and 12 such that a homologue is at least about 50% identical to the referenced protein. Accordingly, Applicants respectfully request that the rejection of claims 1-23 and 44-50 under 35 U.S.C. §112 be withdrawn.

#### **V. Rejection Under 35 U.S.C. §102**

The Office Action rejects claims 1-8, 12-15, 17-20, and 22 under 35 U.S.C. §102(b) as being anticipated by *Ott*, or in the alternative, under 35 U.S.C. 103(a) as obvious over *Ott*. As the Office Action explains, *Ott* teaches that Gag is found in complexes with ubiquitin. However, ubiquitin does not have a UEV domain and does not bind Gag in the same manner as Tsg101. Specifically, ubiquitin has only 7.4% amino acid identity to Tsg101 (see exhibit A), and is not a “homologue” of Tsg101 because it does not have sufficient sequence homology such that there is a structural resemblance to Tsg101 and it is not capable of interacting with Gag in the same manner as Tsg101. Accordingly, the present invention is not anticipated by *Ott* and Applicants respectfully request withdrawal of the rejection of claims 1-8, 12-15, 17-20, and 22 in this respect.

## VI. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 9-11, 16, 21, and 23 under 35 U.S.C. §103(a) as being unpatentable over *Ott* in view of *Desai*. The Office Action explains that *Desai* teaches the sequence of Gag. The Office Action further explains that it would have been obvious to one of skill in the art to determine that the binding region of Gag contains the sequence of SEQ ID NOs 25 and 31. However, because ubiquitin and Tsg101 do not bind Gag in the same manner or at the same location, *Ott* and *Desai* do not suggest the sequence of Gag that binds Tsg101. Furthermore, *Ott* and *Desai* do not suggest the interaction of Gag with Tsg101. Therefore, Applicants respectfully request that the rejection be withdrawn for these claims.

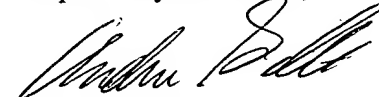
The Office Action also rejects claims 44-50 under 35 U.S.C. §103(a) as being unpatentable over *Ott* in view of *Heinrichs*. The Office Action cites *Heinrichs* as evidence that one of ordinary skill would make expression plasmids for both proteins of a pair that form a complex. *Ott* and *Heinrichs* do not disclose or suggest the interaction of Tsg101 and Gag, and do not disclose or suggest the composition and host cells in claims 44-50. Accordingly, Applicants respectfully request that the rejection be withdrawn.

## VII. Conclusion

In view of the foregoing it is respectfully submitted that this application is now in condition for allowance, which action is respectfully requested. The Examiner is invited to telephone the undersigned to expedite allowance of this application.

Submitted herewith is a petition for a one-month extension of time and provision for the necessary fee. It is believed that no other fees are due with this response; if this is incorrect the Commissioner is hereby authorized to charge any deficiency or credit any over payment to Deposit Account no. 50-1627.

Respectfully submitted,



Andrew Gibbs

Registration No. 52,943

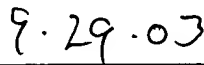
Intellectual Property Department  
**Myriad Genetics, Inc.**  
320 Wakara Way  
Salt Lake City, UT 84108  
Telephone: 801-584-3600  
Fax: 801-883-3871

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Michael Moreno

  
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